1980

AGRICULTURAL MACHINERY INDUSTRY IN ONTARIO

Preliminary Staff Report

Economic Research Branch
Office of Economic Policy
Ministry of Treasury and Economics

June, 1980

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CONTENTS

SUMMARY

BACKGROUND

This staff paper is an extension of the Canadian Machinery and Equipment Industry Report prepared earlier. It takes a closer look at the industry's agricultural implement sector in Ontario and was prepared for the following reasons:

- The agricultural machinery industry has the highest import penetration and the largest trade deficits among all the machinery industry groups although traditionally, Canada has a world-wide reputation in this area.

- The industry is significant to Ontario's economy, employing about 10,000 people located mainly in about half a dozen communities. Massey Ferguson, the largest firm in Canaa has been experiencing some financial problems recently.

- The industry illustrates a number of issues relevant to the development of an industrial strategy. Over 90 percent of the products are free-trade; the industry is well-advanced in rationalization; it has a mixture of Canadian and U.S. owned multinationals; and its trade deficit is increasing.

THE INDUSTRY

- Three-quarters of the production was for export.

- Production in Ontario has increased in the past 15 years, but the current employment level is approximately the same as it was in the mid-1960's. Other regional agricultural machinery centres in Canada have experienced a marked growth in both production and employment. Ontario accounts for about 60 per cent of Canada's production and employment, a decline from 80 per cent in 1970.

- Ninety per cent of Ontario's agricultural machinery production and employment is concentrated in four multinationals -- Massey Ferguson, International Harvester, White Motors and John Deere. About 10 per cent of all the establishments are foreign-owned, but they account for half of the province's production and employment.

TRADE

- Import penetration ranged between 85 to 90 per cent. In 1978, total deficits were just under $900 million in a Canadian market of about $1.7 billion.

- Importation of tractors accounted for about 90 per cent of the total deficits in the machinery sector, but Canada has shown a trade surplus in combines and other haying and harvesting equipment.

- The U.S. accounts for about 90 per cent of Canada's imports and exports and the trend has not changed over the past twenty years. Ninety per cent of the trade in agricultural machinery products is tariff-free including tractors.

IV COMPARISON OF FIRMS

- Three of the four multinationals -- John Deere, International Harvester and White Motors, are U.S. owned. Massey Ferguson, a Canadian-controlled company, has the largest farm machinery operation in Ontario. The total world-wide sales of these four firms is equivalent to 40 to 50 per cent of the total farm machinery production by all the OECD countries.

- Massey Ferguson is the only firm of the four that experienced a notable decline in employment in the last few years. Between 1976-1979, the firm lost over 8,000 employees in its world-wide operation (13% of total).

- The Massey Ferguson plant in Brantford is the company's largest, accounting for nearly two-thirds of the firm's combine production. Except for some component parts, none of the four firms produces tractors in Canada.

- Since 1975, Massey's sales have fallen considerably behind Deere's and International Harvester's.

- During the last decade, John Deere has consistently outpaced the other three firms in all aspects of financial performance. By contrast, White Motors has had the worst financial return. In the past five years, it has shown a net loss in net income ($14 million) and an overall negative return. In Massey, its 1978 losses ($262 million) were so substantial they erased almost all its combined profits for the 1975 to 1979 period.

V. MASSEY FERGUSON'S RECENT FINANCIAL PERFORMANCE

- Low demand and loss of market penetration: In 1975, John Deere's sales were about 20 per cent larger than Massey's. By 1979, the disparity had widened to 60 per cent.

- Operational efficiency: Relative to sales, both the cost of goods sold and administrative expenses at Massey have increased between 1975 and 1979 and the percentages have consistently been higher than John Deere's.

- Foreign exchange adjustment: In the last five years, Massey Ferguson suffered a loss of about $100 million in foreign exchange, but this amount is not substantially higher than the exchange loss experienced by John Deere which managed to turn a net profit in all these years.

- Interest expenses: Due to a combination of its capital investment program, heavy operating loss in 1978, and rising interest rate, Massey's total debt increased more than 3½ times and interest expenses tripled between 1970 and 1979. The proportion of interest expenses as a per cent of sales for Massey is now nearly 3 times Deere's and International Harvester and relatively higher than White Motors.

VI CONCLUSIONS

- Canada's agricultural machinery trade deficit will continue because the country produces very few tractors.

- Past trends strongly suggest that the potential for tractor demand will be higher than for other types of farm implements. Unfortunately, all the four multinationals have rationalized their world-wide operations, and the combine is now the main product made in Canada.

- Current drought conditions, high interest rates, and oversupply of some of the major farm products are expected to have a continuing depressing effect on the farm economy. This could create additional pressures for Massey Ferguson, already in financial difficulties. Besides Massey, White Motors should also be a cause for concern since these two firms generally have suffered more than other farm machinery producers (John Deere, for example), during the market down-turn. Although International Harvester's performance so far has outpaced both Massey's and White Motors', the company has just had a prolonged strike and the first quarter losses alone reached $222 million.

- Massey's current financial state is largely a result of an over-extended and over-diversified capital investment program carried out in the mid-1970's. It is unlikely its predicament could be resolved unless there is a substantial inflow of new capital and/or a further disposal of some of its major assets in order to lessen the burden of debt charges and restore the company to a more favourable debt/equity position.

- While interest expenses are a major concern for Massey, its operational efficiency and its past efforts in research and product development have also contributed to the firm's poor sales and financial performance relative to such competitors as John Deere.

- It should be noted that Canada did not really receive a higher proportion of employment or capital investments relative to its sales from Massey Ferguson, even though the firm is Canadian-controlled. This is somewhat different from most of the multinationals as in the case of John Deere which gave some preference to the parent country.

(I) BACKGROUND

This staff paper is an extension of the Canadian Machinery and Equipment Industry Report prepared earlier. It takes a closer look at the industry's agricultural implement sector in Ontario and was prepared for the following reasons:

- The agricultural machinery industry has the highest import penetration and the largest trade deficits among all the machinery industry groups although traditionally, Canada has a world-wide reputation in this area.

- The industry is significant to Ontario's economy, employing about 10,000 people located mainly in about half a dozen communities. Massey Ferguson, the largest firm in Canada has been experiencing some financial problems recently.

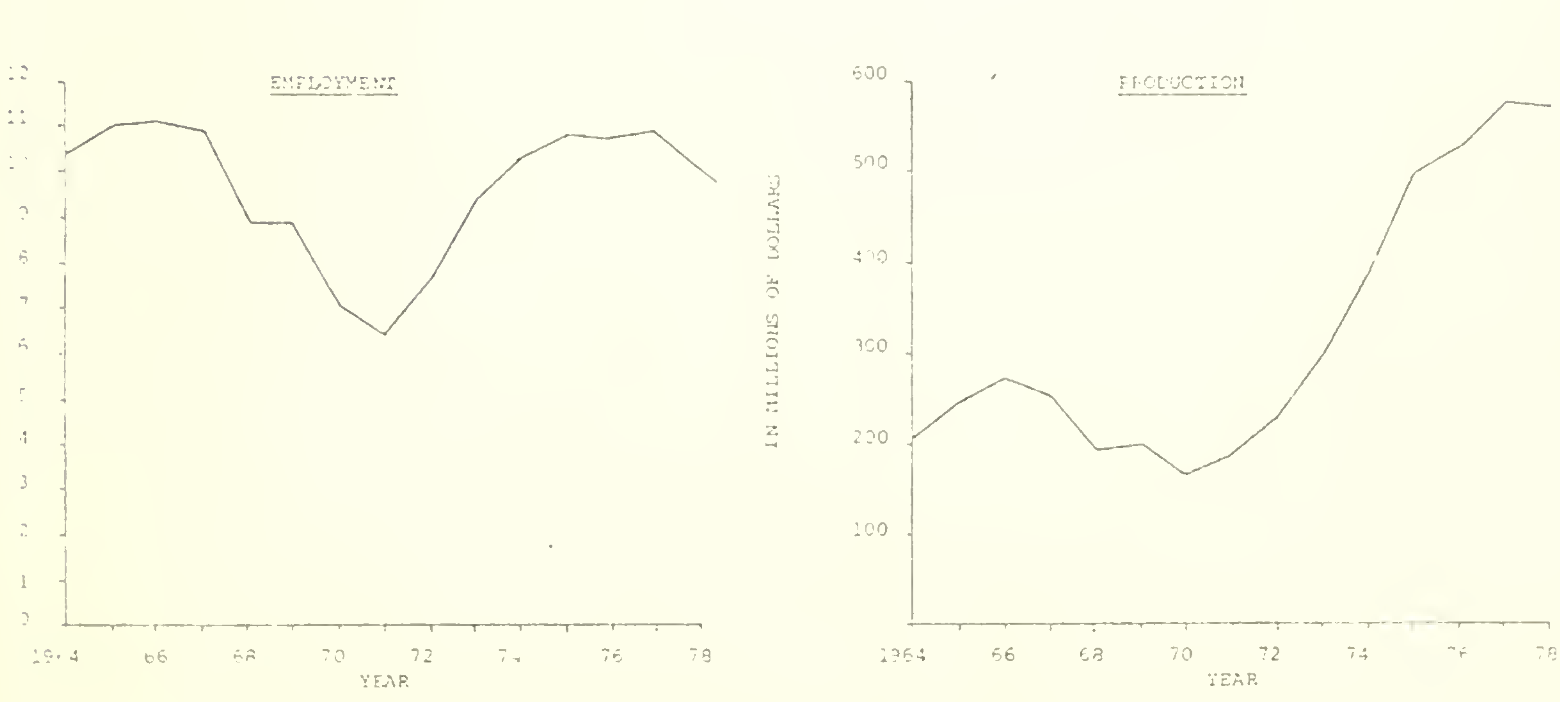
- The industry illustrates a number of issues relevant to the development of an industrial strategy. Over 90 percent of the products are free-trade; the industry is well-advanced in rationalization; it has a mixture of Canadian and U.S. owned multinationals; and its trade deficit is increasing.

(II) STRUCTURE OF THE INDUSTRY

- In 1978, the agricultural machinery sector in Ontario consisted of nearly 60 establishments with an <u>annual production of over \$550 million supporting about 10,000 jobs</u>. Approximately <u>three-quarters of the production was for export.</u>

- Production in Ontario has increased in the past 15 years, but the <u>current employment level is approximately the same as it was in the mid 1960's</u> (Figure 1). During the same period, the Prairie provinces,

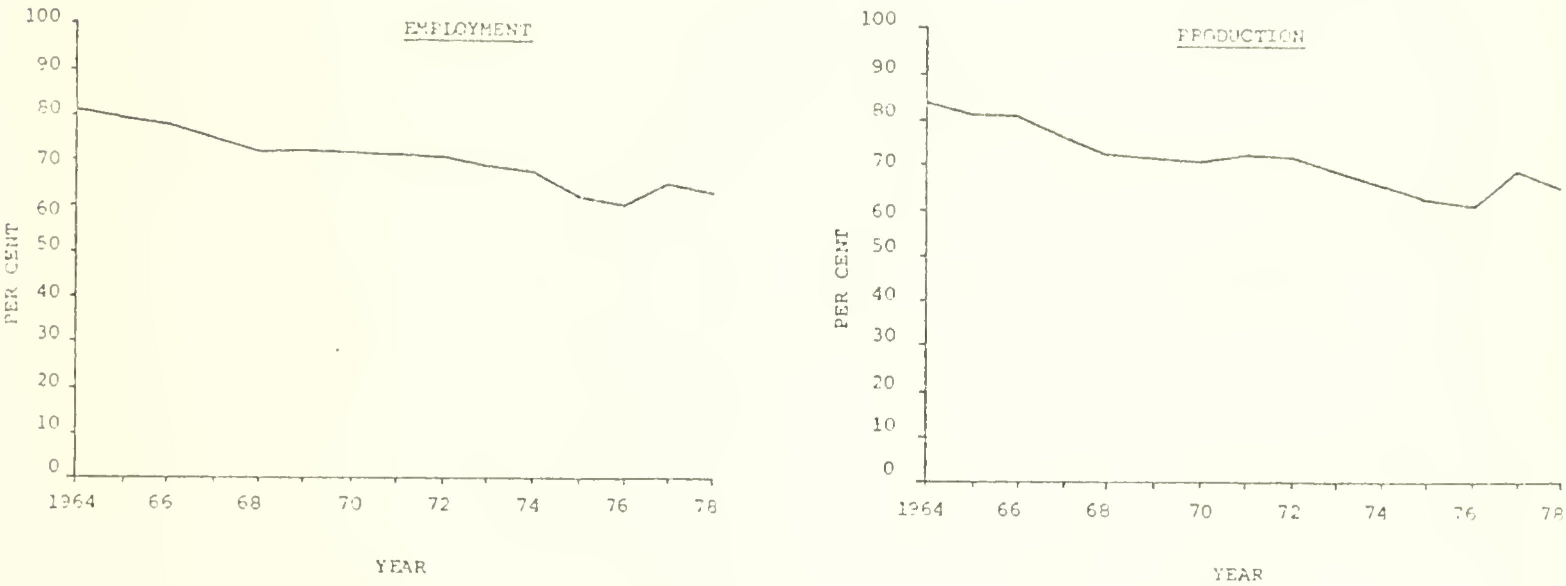
FIGURE 1 - EMPLOYMENT AND PRODUCTION TREND IN ONTARIO, AGRICULTURAL MACHINERY INDUSTRY, 1964 TO 1978



SOURCE: Statistics Canada

the other regional agricultural machinery centre in Canada, has experienced a marked growth in both production and in employment. Presently, Ontario accounts for about 60 percent of Canada's production and employment, a decline from 80 percent in 1970 (Figure 2).

FIGURE 2 = ONTARIO SHARE OF CANADA'S EMPLOYMENT AND PRODUCTION, AGRICULTURAL MACHINERY INDUSTRY, 1964 TO 1978



SOURCE: Statistics Canada

. Ninety per cent of Ontario's agricultural machinery production and employment is concentrated in four multinationals whose operations are fairly well rationalized and with products geared for the North American and world markets (Table 1). About 10 per cent of all the

PER CENT DISTRIBUTION OF PRODUCTION AND EMPLOYMENT BY FIRMS, ONTARIO AGRICULTURAL MACHINERY INDUSTRY, 1977

TABLE 1

	Employment Number	Employment %	Production $M	Production %
Massey Ferguson[1] International Harvester White Motors John Deere	9,507	89	511	90
Rest of Firms	1,167	11	58	10
Total	10,674	100	569	100

Source: Statistics Canada

Notes: 1) Number of establishments in Ontario — 4

Definition of establishment — Statistics Canada

establishments are foreign-owned, but they account for half of the province's production and employment (Table 2). The largest are Massey Ferguson, International Harvester, White Motors and John Deere, of which only Massey is Canadian-owned.

PERCENT DISTRIBUTION OF EMPLOYMENT AND PRODUCTION BY OWNERSHIP, ONTARIO AGRICULTURAL MACHINERY INDUSTRY, 1977 — TABLE 2

Ownership	Per Cent of Establishments	Employment Number	Employment %	Production $M	Production %
Canada	88	6,016	56	265	47
Foreign	12	4,658	44	304	53
Total	100	10,674	100	569	100

Source: Statistics Canada

- In contrast, the average establishment in the rest of Canada is smaller, virtually all Canadian-owned and serving mainly the regional and dry-land type farming market.[2]

	Average Employment Size Per Establishment
Ontario	162
Rest of Canada	51

- Besides Brantford, a substantial proportion of the industry's employment is located in Toronto and Hamilton (Table 3). A number of smaller communities have a fairly significant portion of their economic base devoted to the sector.

LOCATION OF MAJOR ESTABLISHMENTS AGRICULTURAL MACHINERY INDUSTRY, ONTARIO, 1978 — TABLE 3

Urban Centre	Number of Establishments by Employment Size: 50 to 199	200 to 499	500 to 999	1,000 and over	Total
Brantford		1	1	2	4
Hamilton				1	1
Toronto				1	1
Welland			1		1
Elmira		1			1
Otterville	1				1
London	1				1
Long Sault	1				1
Keswick	1				1
Oshawa	1				1
Tillsonburg	1				1

Source: Statistics Canada

[2] The dry-land farming market includes the Canadian prairie as well as the Montana/Dakota area.

(III) TRADE PERFORMANCE

- The agricultural machinery sector has the highest import penetration of all the machinery groups. In the past 15 years, this penetration ranged between 85 to over 90 percent (Figure 3).

- Even taking exports into account, the proportion of deficits as a percentage of the Canadian market still approximate 50 per cent (Figure 4). In 1978, total deficits were just under $900 million in a Canadian market of about $1.7 billion.

FIGURE 3 - IMPORT PENETRATION (%) AGRICULTURAL MACHINERY INDUSTRY, CANADA, 1964 TO 1978

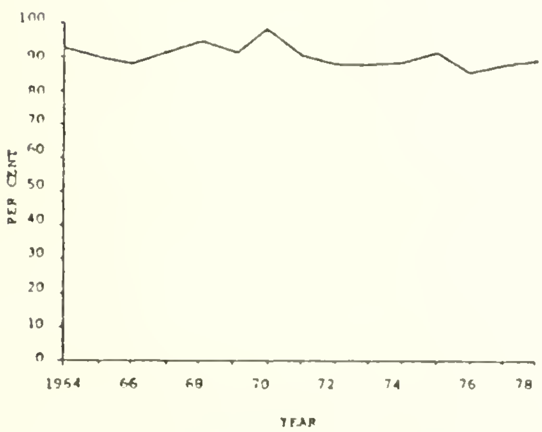
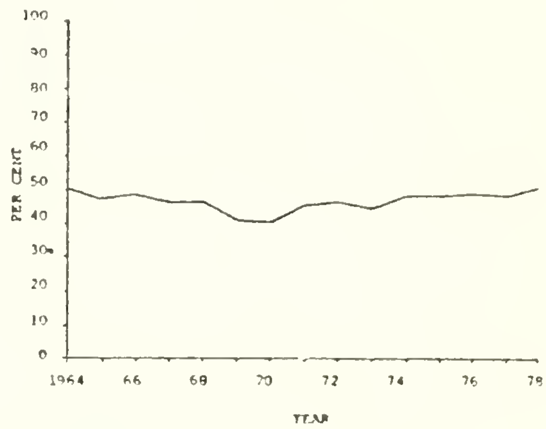


FIGURE 4 - DEFICITS/CANADIAN MARKET (%) AGRICULTURAL MACHINERY INDUSTRY, CANADA, 1964 TO 1978



SOURCE: Based on a synthesis of data from the Department of Industry, Trade and Commerce and Statistics Canada

- Importation of tractors was the major contributory factor, accounting for about 90 percent of the total deficits in the agricultural machinery sector in all the past fifteen years (Figure 5). Except for 1978, Canada has always shown a trade surplus in combines and other haying and harvesting equipment. Apart from Versatile Manufacturing in Manitoba, there is no other firm in Canada producing tractors, including the four large multinationals.[3]

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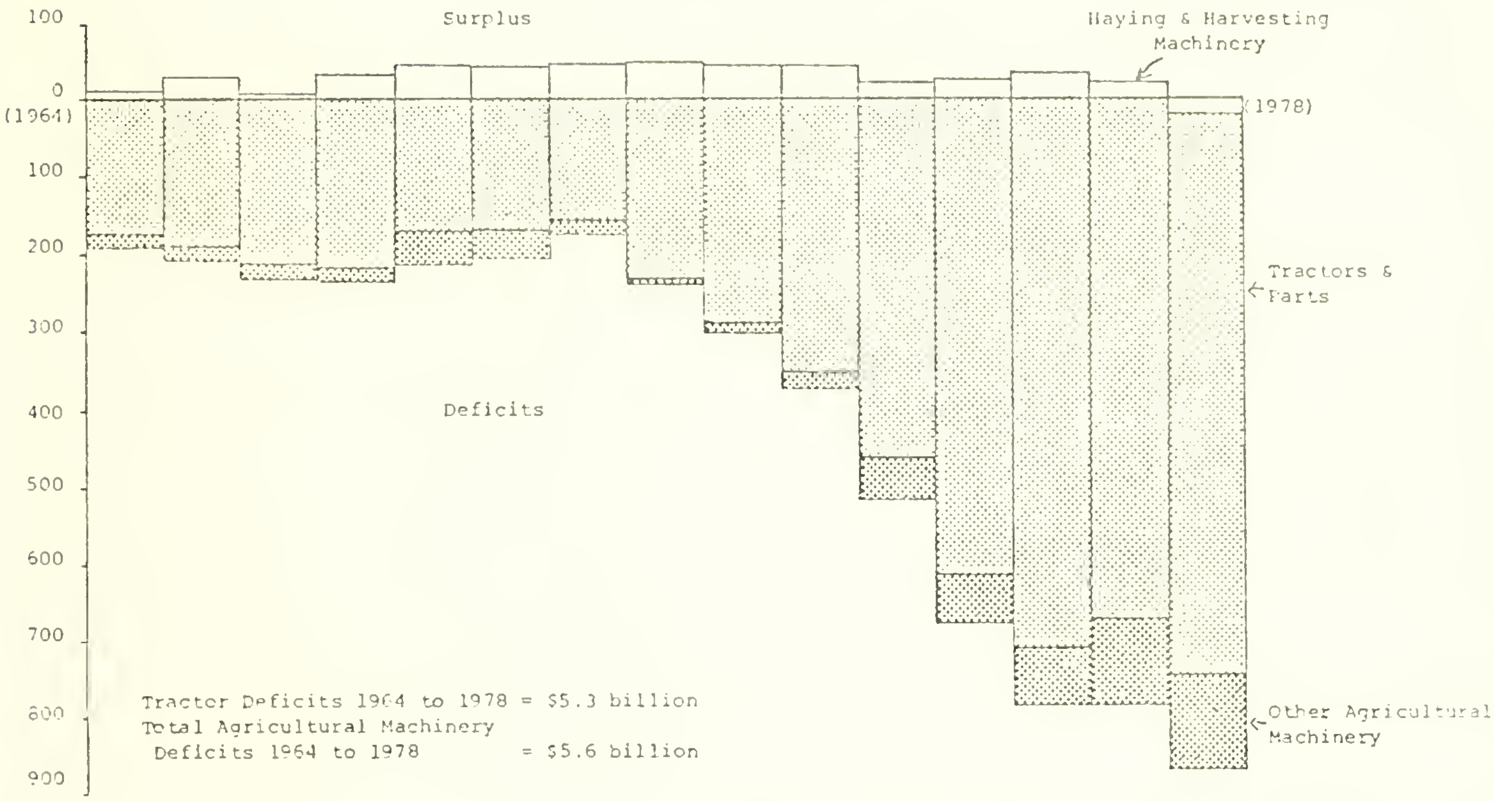
3 A few firms do make tractor components. For products made by the four multinationals in Canada, see next section on comparison of firms.

FIGURE 5 = TRADE SURPLUS/DEFICITS BY AGRICULTURAL MACHINERY GROUPINGS, CANADA, 1964 TO 1978



SOURCE: Based on synthesis of data from the Department of Industry, Trade and Commerce and Statistics Canada

- The U.S. accounts for about 90 percent of Canada's imports and exports and the trend has not changed over the past twenty years. Ninety percent of the trade in agricultural machinery products is tariff-free including tractors.

(IV) COMPARISON OF FIRMS

It was indicated earlier that 90 per cent of Ontario's and 60 per cent of Canada's agricultural machinery production and employment are accounted for by the four multinationals -- Massey Ferguson, John Deere, International Harvester and White Motors, all located in Ontario. Except for Massey Ferguson, these firms are U.S. owned.

This section analyzes the operations and performance of the companies. The examination was done on a global basis because Ontario is an integral part of their world-wide organization. The emphasis is on Massey Ferguson because it is the largest agricultural machinery operation in Ontario and the most publicized presently because of its reported financial problems.[4]

	Agricultural Machinery Employment in Ontario, 1977
Massey Ferguson	5,200
International Harvester	2,500
White Motors	1,100
John Deere	700

a) Size, Product Mix and Plant Locations

- John Deere is the largest farm implement manufacturer in the world, followed by International Harvester and Massey Ferguson. Together with White Motors, the combined world-wide farm machinery sales of these four firms came to nearly $10 billion in 1979 (Table 4).[5] This is equivalent to 40 to 50 per cent of the total farm machinery production by all the OECD countries.

AGRICULTURAL MACHINERY, NET SALES BY FIRMS, 1979 — TABLE 4

Firms	Rank of Size in the World	Sales (U.S. $M)	% of Canadian Ownership
John Deere	1	3,936	0
International Harvester	2	3,155	0
Massey Ferguson	3	2,273	63
White Motors	N.A.	402	0
Total		9,442	

Sources: Annual Reports, Standard Poors Industrial Surveys, OECD Report and Financial Post.

N.A. — not available

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[4] International Harvester has the largest number of employees in Canada (about 6,500), but some portion of it is in the production of trucks and construction machinery, located in Ontario (Chatham), B.C. and Quebec. The other three firms manufacture only agricultural machinery in Canada.

All the Canadian farm machinery production facilities for the four firms are located in Ontario.

[5] Ford Motors and Allis-Chalmers are two other major farm machinery manufacturers, but they do not have any of these plants in Canada.

. For Massey Ferguson and John Deere, agricultural machinery is their main business, accounting for three-quarters of their total sales (Table 5). Although trucks are the dominant product in International Harvester and White Motors, the share of agricultural machinery sales as a per cent of the two firms' total sales has shown an increase since 1973 (Figure 6).

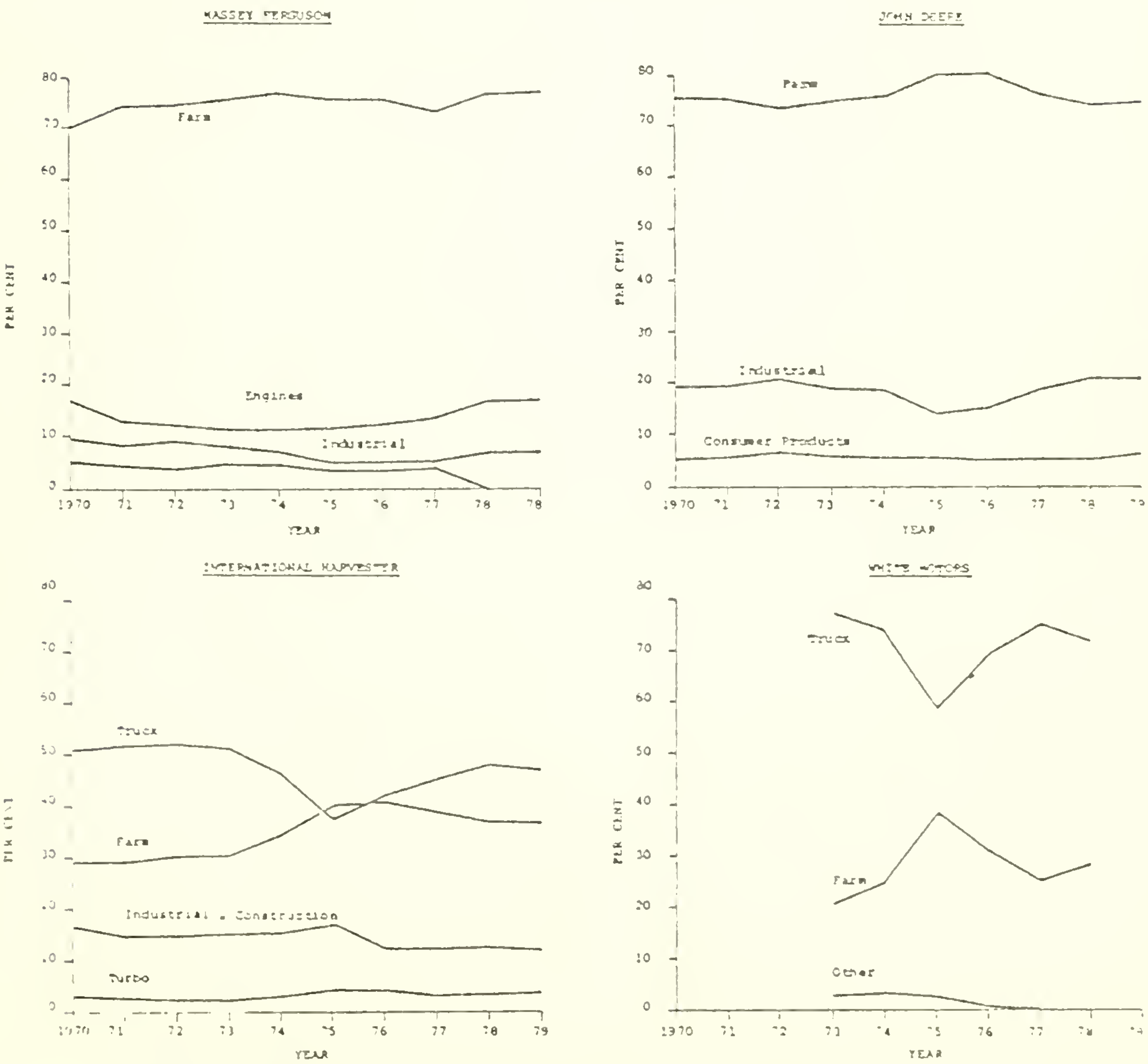
DISTRIBUTION OF SALES BY PRODUCTS, 1979 — TABLE 5

Firms	World-Wide Employment	World-Wide Sales (U.S. $M)	% Distribution of World-Wide Sales: Farm Machinery	Industrial and Construction Equipment	Trucks	Others	Total
Massey Ferguson	56,200	2,973	76	7	-	17	100
John Deere	65,400	4,933	74	20	-	6	100
International Harvester	97,700	8,392	37	12	47	4	100
White Motors	9,700	1,211	33	-	67	-	100

Source: Annual Reports

Note: Massey Ferguson sold its construction equipment operation in 1978. Manufacturing engines is the main "others" products.

FIGURE 6 • PER CENT DISTRIBUTION OF FIRMS' SALES BY PRODUCTS, 1970 TO 1979



Source: Annual Reports

Notes: 1) Massey Ferguson discontinued its construction machinery operation in 1979

2) The dip in the share of truck sales for International Harvester and White Motors in 1975 in 1975 was due to weak demand (recession) and a new federally mandated brake standard for trucks in U.S.

- Massey Ferguson is the only firm of the four that experienced a notable decline in employment in the last few years. Between 1976-1979 the firm lost over 8,000 employees in its world-wide operation (13% of total).

	World-Wide Employment	
	1976	1978
Massey Ferguson	68,200	56,200
John Deere	55,200	65,400
International Harvester	97,700	97,700
White Motors	9,900	9,700

- The combine is the main agricultural machinery product made in Canada (Figure 7). The Massey Ferguson plant in Brantford is the company's largest, accounting for nearly two-thirds of the firm's world combine production. Except for some component parts, none of the four firms produces tractors in Canada.[6] Besides the U.S., France is the only country that produces a fairly complete range of farm machinery.

Figure 7

Number and Locations of Agricultural Machinery Production Facilities By Firms, 1979

Massey Ferguson

Countries	Total No. of Plants	Main Products: Combine	Tractor	Other Implements	Parts
Canada	6	X		X	X
U.S.A.	5		X	X	X
U.K.	4		X		X
W. Germany	2		X	X	X
France	2	X	X	X	X
Rest of Europe	3		X		X
Australia & New Zealand	2	X		X	
Central & South America	3	X	X	X	
Africa	3			X	X
Asia	0				

International Harvester

Countries	Total No. of Plants	Main Products: Combine	Tractor	Other Implements	Parts
Canada	1	X		X	X
U.S.A.	9	X	X	X	X
U.K.	3		X	X	X
W. Germany	1		X		X
France	2	X	X	X	X
Rest of Europe	0				
Australia & New Zealand	2	X	X	X	X
Central & South America	2	X	X	X	X
Africa	1		X		
Asia	4		X	X	

John Deere

Countries	Total No. of Plants	Main Products: Combine	Tractor	Other Implements	Parts
Canada	1			X	
U.S.A.	6	X	X	X	X
U.K.	0				
W. Germany	2	X	X		
France	2			X	
Rest of Europe	1		X		
Australia & New Zealand	0				
Central & South America	2		X	X	
Africa	1			X	
Asia	0				

White Motors

Countries	Total No. of Plants	Main Products: Combine	Tractor	Other Implements	Parts
Canada	1	X			
U.S.A.	2		X	X	X
U.K.	0				
W. Germany	0				
France	0				
Rest of Europe	0				
Australia & New Zealand	0				
Central & South America	0				
Africa	0				
Asia	0				

Source: Annual Reports

6 Excluding parts, tractors accounted for about 2/3 of the total farm machinery sales of Massey Ferguson.

b) Geographical Distribution of Sales, Employment and Investment

. Unlike the three U.S.-owned firms which make about 80 per cent of their sales in the North American market, Massey Ferguson's sales are divided more or less evenly among North America, Europe and the rest of the world (Table 6).

PER CENT DISTRIBUTION OF FIRMS' SALES BY GEOGRAPHICAL AREAS, 1979 — TABLE 6

	% of Total Firms' Sales			
Regions	Massey Ferguson	John Deere	International Harvester	White Motors
North America	35	80	81	96
Europe	35	13	10	4
Rest of the World	30	7	9	
Total	100	100	100	100

Source: Annual Reports

Notes: 1) The percentage breakdowns of sales into Europe and "others" for John Deere and International Harvester were estimated by the Economic Research Branch, using information from the Annual Reports.

2) The percent distribution information covers all products made by the firms.

. Five of the top six markets for Massey Ferguson and John Deere are identical and, in both companies, the U.S. accounted for the largest share of the sales (Table 7). For Massey Ferguson, Latin America, particularly Brazil, represents a sizeable market.[7] In the last two years, John Deere has built a new tractor plant in Venezuela and has acquired some interest in a local Brazilian combine firm which should intensify the competition for Massey Ferguson in that area. In absolute terms, John Deere has a larger sale in Canada than Massey Ferguson, $348 million versus $218 million in 1979.

THE TOP SIX MARKETS FOR MASSEY FERGUSON AND JOHN DEERE, 1979 — TABLE 7

Massey Ferguson		John Deere	
Countries	% of the Firm's Sales	Countries	% of the Firm's Sales
U.S.	28.2	U.S.	72.5
U.K.	11.4	Canada	7.1
Brazil	10.7	Spain	3.1
Canada	7.3	France	2.9
France	6.7	Germany	2.3
Germany	6.0	U.K.	1.6

Source: Annual Reports

7 As discussed on page 11, recent events in some South-American countries have had an effect on the sales performance of Massey Ferguson in the past three years.

. Canada's share of total employment for the three U.S.-owned firms is smaller than its proportion of sales (Table 8). In the case of the Canadian-controlled Massey Ferguson, the concentration of employment in Canada is only marginally higher than the proportion of sales -- 7.8 per cent versus 6.9 per cent.

SHARE OF THE FIRM'S EMPLOYMENT LOCATED IN CANADA VERSUS THE PROPORTION OF SALES IN CANADA, 1977

TABLE 8

Canada/ World-wide (%)	Massey Ferguson	International Harvester	John Deere	White Motors
Employment	7.8	6.7	1.3	10.9
Sales	6.9	7.7	6.6	13.9

Source: Estimated by the Economic Research Branch, based on a synthesis of information from Statistics Canada, Company's Annual Reports and Interviews with Firms.

Note: The sales and employment information for Massey Ferguson and John are mainly in agricultural machinery. For International Harvester, it includes a certain portion of other products because besides agricultural machinery; the company also produces trucks and construction equipment in Canada.

. Between 1973-1977, Massey undertook a major capital investment program, totalling about $660 million. The bulk of this investment program was in Europe, as indicated by the geographical distribution of the added floor space.

Increase in Factory Floor Space, 1973 to 1977 (in millions of square feet)	Per Cent Distribution of the Increase					
	Canada	U.S.	Latin America	Europe	Others	Total
7.5	6	19	11	60	4	100

. The consolidation program which Massey began in 1977 reduced the firm's total factory space by about 2.6 million square feet. The reduction took place mainly in Europe and in the U.S.

Decrease in Factory Floor Space, 1973 to 1977 (in millions of square feet)	Per Cent Distribution of the Decrease					
	Canada	U.S.	Latin America	Europe	Others	Total
2.6	12	38	4	46	NC	100

NC = No change

c) Sales Performance

. Between 1970 and 1975, the sales performance of Massey Ferguson was comparable to both John Deere and International Harvester (Table 9). Since 1975, its sales have fallen considerably behind the two other companies -- not just in farm machinery but also in other product groupings -- in North America and the rest of the world.

AVERAGE ANNUAL INCREASE IN SALES (%) BY PRODUCT GROUPS AND BY GEOGRAPHICAL REGIONS, 1970-1975 and 1975-1979 — TABLE 9

Annual % change	Product Groupings: Farm Machinery	Others	Geographical Regions: Canada	U.S.	Rest of the World
1970-1975					
Massey Ferguson	24.1	17.1	24.4	19.1	23.1
John Deere	22.7	16.3	35.9	13.5	27.9
International Harvester	22.1	[illegible]	[illegible]	12.3	21.5
1975-1979					
Massey Ferguson	3.2	3.2	2.4	7.2	[illegible]
John Deere	10.6	11.4	10.4	11.7	[illegible]
International Harvester	8.1	[illegible]	10.6	10.8	5.4
White Motors	2.7	8.0			

Source: Annual Reports

Note: Information on White Motors, not available by product groups for 1970-1975 and breakdown by geographical regions.

. The poor agricultural machinery sales performance of Massey Ferguson relative to John Deere and International Harvester began around 1977 when the world farm economy was still in a depressed state (Table 10). Since then, three major events have taken place that have had an adverse impact on Massey Ferguson sales.

- tight monetary and credit controls, as well as prolonged drought in Brazil (1977 and 1978) which is Massey's third largest market;

- the extent of recovery in the North American farm machinery market in 1978 and 1979 was much greater than that in Europe, a more important market to Massey Ferguson than to John Deere or International Harvester;

- timing of market upturn -- Massey Ferguson reduced its factory production scheduling in the first half of 1978, but when the market began to improve in the second half, the company appeared not to capitalize on the upturn because of the long lead time needed to gear up again for production.

. Of the four firms, White Motors had the poorest overall farm machinery sales record from 1975 to 1979. Its annual increase was even lower than Massey Ferguson (6.8 per cent versus 9.6 per cent). The firm, though, improved its sales significantly in 1979. It was able to increase its market penetration by taking advantage of both strike and capacity restraints in John Deere and a buoyant North American farm economy.

PERCENT CHANGE IN THE FIRM'S AGRICULTURAL MACHINERY SALES BY YEAR, 1975-1979 — TABLE 10

Year	Massey Ferguson	John Deere	International Harvester	White Motors
1979	12.9	19.4	32.2	30.5
1978	-4.0	12.4	0.6	-2.1
1977	0.5	16.3	3.2	-5.2
1976	7.6	6.3	7.4	-5.7
1975	41.5	25.1	27.1	22.2

Source: Annual Reports

Notes: From 1977 to the early part of 1978, the farm machinery market was affected adversely by generally depressed world agricultural economy.

2) The extremely high sale performance for Massey in 1975/76 was brought on by a combination of dramatic growth in the Latin American market especially Brazil and a general increased market penetration by the company's products.

3) Except John Deere, the other three firms have introduced some form of Management and/or operational changes; White Motors in 1976; International Harvester in 1976/77, and Massey Ferguson in 1978.

4) Massey Ferguson suffered strikes in 1977, John Deere in 1976 and 1979, and International Harvester in 1978.

d) Financial Performance

. During the last decade, John Deere has consistently outpaced the other three firms in all aspects of financial performance. It has the largest net income (Table 11), the best rate of net income as a per cent of shareholder's equity and as a per cent of assets, (Table 12) and the lowest debt/net worth ratio (Table 13).[8]

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[8] Net worth is defined as shareholders' equity plus retained earnings.

NET INCOME BY FIRMS, 1975-1979 — TABLE 11

Firm	1975	1976	1977	1978	1979	Total
	Amount (in $U.S. millions)					
Massey Ferguson	95	118	33	-262	37	21
John Deere	179	242	256	265	311	1,253
International Harvester	79	173	204	199	414	1,069
White Motors	-69	22	20	≈0	13	-14

Source: Annual Reports

Note: Include Extraordinary Items.

NET INCOME AS A PER CENT OF SHAREHOLDER'S EQUITY AND AS A PER CENT OF ASSETS — TABLE 12

Firms	Net Income as a Per Cent of Shareholder's Equity		Net Income as a Per Cent of Assets	
	1970-1975	1975-1979	1970-1975	1975-1979
Massey Ferguson	7.1	0.6	2.6	0.2
John Deere	11.5	15.9	5.8	7.4
International Harvester	6.9	12.2	N/A	5.2
White Motors	1.6	-1.4	N/A	-0.5

Source: Annual Reports

Notes: Information by year, see Appendix 1.

Net income as a per cent of assets for International Harvester and White Motors for 1970-1975, not available (N.A.).

TOTAL DEBT/NET WORTH RATIOS BY FIRMS, 1973-1979 — TABLE 13

Firms	1973	1974	1975	1976	1977	1978	1979	Average 1973-1979
	Debt Net Worth Ratios							
Massey Ferguson	1.6	2.0	2.0	1.3	2.1	3.6	3.7	2.4
John Deere	0.9	0.9	1.0	1.1	1.1	1.2	1.1	1.1
International Harvester	1.2	1.4	1.4	1.3	1.1	1.3	1.3	1.3
White Motors	1.5	2.1	3.1	2.7	1.3	1.7	1.6	2.0

Source: Annual Reports

. By contrast, White Motors has had the poorest financial return. In the past five years, it has shown a net loss in net income ($14 million) and an overall negative return on investment.

. In Massey's case, both the net income as a per cent of sales and as a per cent of assets from 1973 to 1976 was comparable to Deere's and, in fact, higher than International Harvester's. However, its 1978 losses ($262 million) were so substantial they erased almost all its combined profits for the 1975 to 1979 period.

. Massey Ferguson has the highest debt/net worth ratio of the four companies. (A ratio of 2 is generally taken as the rule of thumb.) Currently, its net worth is equivalent to about 40 per cent of its total debt. White Motors reduced its debt/net worth ratio substantially in 1976 by selling its industrial and construction machinery operations.

(V) MASSEY FERGUSON'S RECENT FINANCIAL PERFORMANCE

. In the last few years, Massey's financial performance has been conspicuously lower than its two main competitors, John Deere and International Harvester. The $262 million loss it reported in 1978 was the largest ever experienced by a Canadian company. The following examines some elements that contributed to the firm's recent financial difficulties and compare it with John Deere which is similar in size and product mix.

a) Low Demand and Loss of Market Penetration

. A number of factors such as a depressed world farm economy, the Brazil situation and poor production scheduling have all contributed to Massey's poor agricultural machinery sales in the past few years which in turn have resulted in lower income. As well, Massey has been losing ground in market share. In 1975, John Deere's sales were about 20 per cent larger than Massey's. By 1979, the disparity had widened to 60 per cent.

	Ratio of Firm's Sales	
	1975	1979
John Deere/Massey Ferguson	1.2	1.6
International Harvester/ Massey Ferguson	1.1	1.4
White Motors/Massey Ferguson	0.2	0.2

. This loss in market share might be due partly to Massey's research and product development effort. In the last decade, its research and product development expenditure as a per cent of sales was considerably lower than John Deere's -- 2.3 per cent per annum versus 3.8 per cent.

b) Operational Efficiency

. Relative to sales, both the cost of goods sold and administrative expenses at Massey's have increased between 1975 and 1979 (Table 14)[9]. In addition, Massey's percentages have consistently been higher than John Deere's. In 1979, for example, if Massey had maintained the same ratios here as John Deere, it would have added close to $200 million to its net income.[10]

OPERATIONAL COSTS AS A PER CENT OF SALES, MASSEY FERGUSON VERSUS JOHN DEERE, 1975-1979 — TABLE 14

Firm	Cost of Goods Sold/Sales (%) 1975	1977	1979	Average 1975-1979
Massey Ferguson	77	79	81	78
John Deere	77	75	77	76

Firm	Selling and Administration Expenses/Sales (%) 1975	1977	1979	Average 1975-1979
Massey Ferguson	11	12	12	12
John Deere	9	10	9	9

Source: Annual Reports

. Part of the reason for Massey's higher operational expenses is the nature of its market and the location of its production facilities, both of which are more dispersed than Deere's. In 1979, Massey operated about 30 major factories in 11 countries compared with 11 plants in 8 countries for Deere whose volume of sales was about 40 per cent higher than Massey's.

9. It should be noted that the items included under the cost of goods sold by Massey and Deere may be slightly different.

10. 1979 Actual cost of goods sold plus administrative and selling expenses, Massey Ferguson = $2752 m.

1979 cost of goods sold plus administrative and selling expenses if Massey had maintained the same ratios as Deere's = $2554 m.

Foreign Exchange Adjustment [11]

. In the last five years, Massey Ferguson suffered a loss of about $100 million in foreign exchange, mainly due to the decline in the Canadian and American dollars, the largest loss occurring in 1978 (Table 15). This amount, while important to the earnings of the

EXCHANGE LOSS/GAIN, MASSEY FERGUSON VERSUS JOHN DEERE, 1975-1979

TABLE 15

Firm	Amount in U.S. $ million					
	1975	1976	1977	1978	1979	Total 1975-1979
Massey Ferguson	-8	-24	-22	-72	25	-101
John Deere	-17	≈ 0	-14	-54	≈ 0	- 85

Source: Annual Reports

11 The exchange adjustments shown here for the two companies are based on the U.S. Financial Accounting Standards Board (FASB 8) which required that inventory sold be translated to reflect the cost of goods sold at historical exchange rates. Massey Ferguson felt the FASB 8 did not realistically reflect the impact of floating exchange rates on the operations of a multinational company, and that the FASB 8 tends to distort the income statement because the sales revenue is generally translated at the average exchange rates. After taking into account the effect of floating currency, the company recalculated the exchange adjustments as follows:

	1978	1979
Effect of foreign currency exchange rate changes in cost of sales	15.1 m	- 18.6 m
Exchange adjustments (under FASB 8)	- 72.4 m	24.9 m
Modified exchange adjustments	- 57.3 m	6.3 m

For comparison purposes, this staff study has used the FASB 8 figures since John Deere also used this system for reporting. In fact, when the 1978 and 1979 figures are combined under either assumption, the net effect on Massey Ferguson would still be approximately the same for these two years.

FASB Assumption	= - 72.4 + 24.9 = - 47.5
Modified Assumption	= - 57.3 + 6.3 = - 51.0

- company, is not substantially higher than the loss experienced by John Deere. Yet Deere managed to turn a net profit in all these years. At the same time, much of the foreign exchange loss arose from translation of foreign currency statements rather than actual transaction losses.

- Part of Massey's operation is in the U.K. where the currency has gone up against the U.S. dollar, and this has had an adverse effect on its product competitiveness vis-a-vis John Deere or International Harvester.

Interest Expenses

- In 1973, Massey Ferguson began a major capital expenditure program which reached its peak around 1976/77. Unlike John Deere, which could finance virtually all its capital expenditures between 1970 and 1977 from its increase in retained earnings, the bulk of Massey's expansion program was undertaken mainly through long-term debt.[12]

	Massey Ferguson	John Deere
Increase in Retained Earnings,[13] 1970-1977	275 m	819 m
Total Capital Expenditures, 1970-1977	760 m	815 m

- Together with the heavy operating loss in 1978, the capital expenditure program has resulted in a substantial financial burden on Massey Ferguson. Total debt increased more than 3½ times -- from 600 million in 1970 to over 2100 million in 1979 (Figure 8). Interest expenses tripled from $50 million in 1970 to over $160 million in 1979 (Figure 9.)[14]

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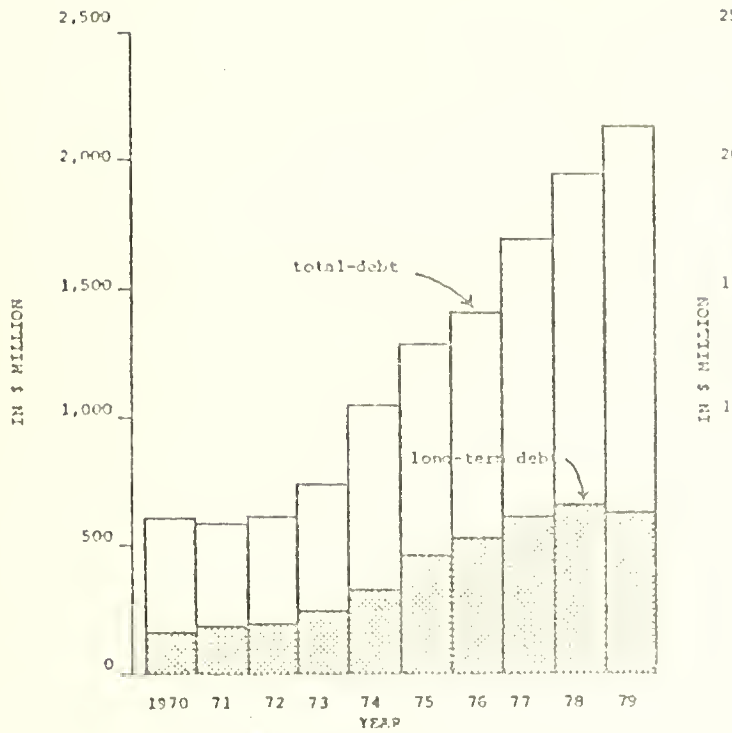
12 John Deere is still in the middle of its major capital expansion program. The firm, though, had accumulated $1,748 million in retained earnings at the end of 1979 compared with $306 million for Massey.

13 Calculated by the Economic Research Branch based on information from annual reports.

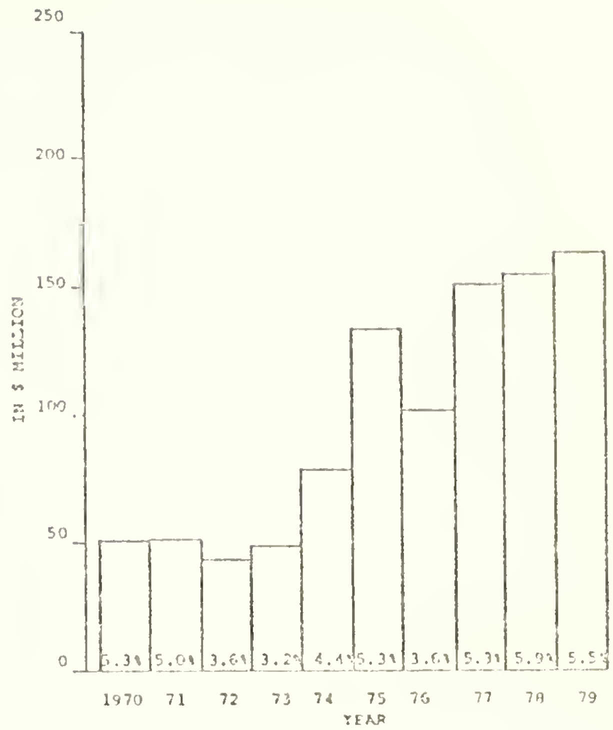
14 About half of the interest expenses are for long-term debt.

FIGURE 8 = TOTAL DEBT, MASSEY FERGUSON, 1970-1979 IN U.S. $ MILLIONS



SOURCE: Annual Reports
NOTE: % - Per Cent of Interest Expenses/Sales.

FIGURE 9 = INTEREST EXPENSES, MASSEY FERGUSON 1970-1979 IN U.S. $ MILLIONS



. The proportion of interest expenses as a per cent of sales for Massey is now nearly three times Deere's and International Harvester's and relatively higher than White Motors.

	Interest Expenses/Sales (%), 1979
Massey Ferguson	5.5
John Deere	1.9
International Harvester	1.8
White Motors	3.6

. Compared with John Deere and International Harvester, the current weighted interest rate paid by Massey Ferguson is also relatively high. As well, Massey could be subject to further expenses if there is an upward pressure on interest rates since at least 20 per cent of the firm's debt is based on floating rates which depend on market conditions.[15]

	Weighted Interest Rate on Debt, 1979 [15]
Massey Ferguson	9.0%
John Deere	7.5%
International Harvester	8.6%

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15 Estimated by the Economic Research Branch based on information from the Annual Reports. The weighted interest rates shown here apply to long-term debt only. In Massey's case, the 9.0 per cent rate refers to about 60 per cent of the debt; another 20 per cent of the firm's debt is in the form of bank loans with interest varying between 3/4% to 2½% above the Eurodollar interbank rate and various bank market rates. Interest rate for the remaining 20 per cent debt was not specified.

- The impact of interest expenses on Massey's financial performance is significant. If the effect of interest expenses is removed, Massey's overall return on equity in the last ten years would be very comparable to Deere's or International Harvester's 1978 (Table 16).[16]

RETURN ON INVESTMENTS BY FIRMS, EXCLUDING THE EFFECT OF INTEREST EXPENSES, 1970-1975 and 1975-1979 — TABLE 16

Firms	Net Income As a Per Cent of Shareholders' Equity Excluding the Effect of Interest - Expenses 1970-1975	1975-1979	1970-1979
Massey Ferguson	14.7	17.9	17.6
John Deere	16.4	19.7	18.0
International Harvester	13.1	17.7	16.3
White Motors	7.1	10.1	8.6

Source: Annual Reports

(VI) CONCLUSIONS

- Canada's agricultural machinery trade deficit will continue because the country produces very few tractors.

- Past trends strongly suggest that the potential for tractor demand will be higher than for other types of farm implements. Unfortunately, all the four multinationals have rationalized their world-wide operations, and the combine is now the main product made in Canada.

Machinery Type	Farm Machery Expenditure, U.S. % Annual Increase 1970-1977	Farm Machinery Sales, Canada % Annual Increase 1970-1977
Tractors	14.8	23.2
Others	7.7	22.0

16 It should be noted that between 1975 and 1979, Massey's shareholders' equity dropped as reflected in the company's net worth while the other three firms have shown an increase.

	Change in Net Worth
Massey Ferguson	- 10%
John Deere	+ 66%
International Harvester	+ 49%
White Motors	+ 34%

- Current drought conditions, high interest rates, and oversupply of some of the major farm products are expected to have a continuing depressing effect on the farm economy.[17] This could create additional pressures for Massey Ferguson, already in financial difficulties. Besides Massey, White Motors should also be a cause for concern since these two firms generally have suffered more than other farm machinery producers (John Deere, for example), during the market down-turn. Although, International Harvester's performance so far has outpaced both Massey's and White Motors', the company has just had a prolonged strike and the first quarter losses alone reached $222 million.[18]

- Massey's current financial state is largely a result of an over-extended and over-diversified capital investment program carried out in the mid 1970's. It is unlikely its predicament could be resolved unless there is a substantial inflow of new capital and/or a further disposal of some of its major assets in order to lessen the burden of debt charges and restore the company to a more favourable debt/equity position.[19]

- While interest expenses are a major concern for Massey, its operational efficiency and its past efforts in research and product development have also contributed to the firm's poor sales and financial performance relative to such competitors as John Deere.

- It should be noted that Canada did not really receive a higher proportion of employment or capital investments relative to its sales from Massey Ferguson, even though the firm is Canadian-controlled. This is somewhat different from most of the multinationals as in the case of John Deere which gave some preference to the parent country.

	Canada/Firm's Total Massey Ferguson, 1977	U.S./Firm's Total John Deere, 1977
Employment	7.8	79.3
Sales	6.9	71.4

17 Farm machinery is a cyclical industry and the world farm machinery market was also in a depressed state from about 1976 to 1978.

18 "The Strike That Rained on Archie McCardell's Parade", Fortune, May 1980.

19 Massey has already disposed of some of its assets over the last two years (for example, its construction machinery operation in Germany and furniture production in Ontario).

COMPARISON OF
RETURN ON ASSETS AND RETURN ON
SALES BY FIRMS, 1970-1979

APPENDIX 1

Firms	Return on Shareholder's Equity (%)									
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Massey Ferguson	-5.0	2.3	9.6	12.4	13.1	14.8	14.7	4.1	-47.4	6.4
John Deere	4.9	11.0	15.9	12.6	11.8	15.1	17.5	16.3	15.1	15.7
International Harvester	4.6	3.9	7.2	8.9	9.1	5.5	11.1	11.8	10.6	19.3
White Motors	-10.2	-8.6	3.9	9.8	8.8	-40.3	11.4	9.0	0.2	5.6

Firms	Return on Assets (%)									
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Massey Ferguson	-2.0	0.9	3.9	4.7	4.2	4.7	5.1	1.3	-10.0	1.3
John Deere	2.2	5.5	8.1	6.6	6.1	7.2	8.2	7.5	6.8	7.4
International Harvester				4.1	3.7	2.3	4.8	5.3	4.6	7.9
White Motors				3.7	2.7	-9.6	3.0	3.1	0.1	2.1

Source: Annual Reports